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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/813,624

03/31/2004

Yuji Hamada

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EXAMINER

GARRETT, DAWN L

ART UNIT

PAPER NUMBER

1774

MAIL DATE

DELIVERY MODE

05/14/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/813,624

Applicant(s)

HAMADA ET AL.

Examiner

Dawn Garrett

Art Unit

1774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 24, 2007 has been entered.
2. The amendment filed April 24, 2007 has been entered. Claim 1 was amended. Claims 4-18 are cancelled. Claims 1-3 and 19 are pending.
3. The rejection of claim 18 under 35 U.S.C. 102(e) as being anticipated by Higashi et al. (US 7,045,950) is withdrawn due to the cancellation of claim 18.
4. The rejection of claim 18 under 35 U.S.C. 102(e) as being anticipated by Toguchi et al. (US 6,565,993) is withdrawn due to the cancellation of claim 18.

Claim Rejections - 35 USC § 102/103

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1774

7. Claims 1-3 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Higashi et al. (US 7,045,950). Higashi et al. discloses organic electroluminescent devices with an organic compound layer having an impurity concentration of lower than 1000 ppm (see abstract). This impurity concentration encompasses the impurity range required by the present claims. The organic compounds may include phenylamino-containing compounds (see bottom of col. 7-8, bottom of col. 13-14, top of col. 15-16, col. 17-22). The electroluminescent devices may further comprise carrier-transporting layers per claim 3 (see col. 26, lines 51). Claim 1 is a product-by-process claim. M.P.E.P. § 2113:

“Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.”
In re Thorpe, 227 USPQ 964, 966 (Fed. Cir. 1985)...
“The Patent Office bears a lesser burden proof in making out a case of *prima facie* obviousness for product-by-process claims because of their peculiar nature” than when a product is claimed in the conventional fashion.
In re Fessman, 180 USPQ 324, 326 (CCPA 1974).
Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289, 292 (Fed. Cir. 1983).

It is further noted that claim 1 does not require that some of the copper catalyst used in an

Ullmann reaction is left behind in the phenylamino product. With regard to claim 19, regardless

Art Unit: 1774

of a method of detecting impurities in a final product, the final product in the prior art is considered to meet the product limitations of claim 1 as required.

In the alternative that Higashi et al. does not anticipate the organic compound of claim 1, it would be obvious to one of ordinary skill in the art to use a compound in its most pure form as one would expect the most pure form of the compound to perform better than an impure form of the compound. Furthermore, it is obvious to purify a known compound (see MPEP 2144.04).

8. Claims 1-3 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Toguchi et al. (US 6,565,993). Toguchi et al. discloses electroluminescent devices comprising organic layers including an electron-transporting layer (carrier transporting material), emission layer, and a hole-transporting layer (carrier transporting material) (see abstract and col. 3, lines 48-60). Materials included in the organic functional layers of the device are tris(8-quinolinol)aluminum complex (Alq3), 1,4-bis(N-p-tolyl-N-4-(4-methylstyryl)phenylamino)naphthalene (see par. 4, lines 14-22), and 4,4'-bis(m-tolylphenylamino)biphenyl (TPD) (see col. 5, lines 42-43) per the claim requirements of a compound having a phenylamino group. No impurities are disclosed by Toguchi et al. with regard to the level of no impurities recited in the present claims. Claim 1 is a product-by-process claim. M.P.E.P. § 2113:

“Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.”

In re Thorpe, 227 USPQ 964, 966 (Fed. Cir. 1985)...

“The Patent Office bears a lesser burden proof in making

Art Unit: 1774

out a case of *prima facie* obviousness for product-by-process claims because of their peculiar nature” than when a product is claimed in the conventional fashion.

In re Fessman, 180 USPQ 324, 326 (CCPA 1974).

Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289, 292 (Fed. Cir. 1983).

It is further noted that claim 1 does not require that some of the copper catalyst used in an Ullmann reaction is left behind in the phenylamino product. With regard to claim 19, regardless of a method of detecting impurities, the final product in the prior art is considered to meet all product limitations of claim 1 as required.

In the alternative that Toguchi et al. does not anticipate the organic compound of claim 1, it would be obvious to one of ordinary skill in the art to use a compound in its most pure form as one would expect the most pure form of the compound to perform better than an impure form of the compound. Furthermore, it is obvious to purify a known compound (see MPEP 2144.04).

Response to Arguments

9. Applicant's arguments filed April 24, 2007 have been fully considered but they are not persuasive. The impurity concentrations set forth in the present claims encompass a zero concentration of impurities with regard to the Toguchi et al. rejection. Higashi et al. clearly disclose impurity levels within those claimed by applicant. Accordingly, both Toguchi and Higashi are considered to anticipate each required limitation of the claimed devices.

Applicant argues Higashi et al. and Toguchi et al. are silent with respect to copper impurities. In response, even if Higashi et al. and Toguchi et al. are silent with respect to copper impurities, there is no suggestion that one can clearly conclude there are copper impurities present in an amount greater than the range disclosed by applicant. In addition, in the alternative that Higashi et al. and Toguchi et al. do in fact use compounds having copper impurities, it is obvious to purify impure compounds and to use the compounds in their most pure form.

With regard to Higashi et al., applicant argues although Higashi et al. teaches impurities of 1000 ppm or less, Higashi et al. do not have any explicit teachings of copper impurity in the “less than 500 ppm” range. The examiner submits Higashi et al. does teach the required range with sufficient specificity; however, in the alternative that there is not sufficient specificity, it is obvious to one of ordinary skill in the art to purify an impure compound and to use the compound in its most pure form with the reasonable expectation that the most pure form would exhibit the best performance.

With regard to Toguchi et al., applicant there is no explicit teachings of copper impurity in the “less than 500 ppm” range. The examiner submits Toguchi et al. does teach the required purity range with sufficient specificity; however, in the alternative that there is not sufficient specificity, it is obvious to one of ordinary skill in the art to purify an impure compound and use the compound in its most pure form with the reasonable expectation that the most pure form would exhibit the best performance.

Applicant again argues copper atoms are required. The examiner respectfully submits copper atoms are not required, because the impurity range includes a zero amount (“500 ppm or less”).

Art Unit: 1774

In general, the examiner further notes that 35 U.S.C. 102 and 103 rejections for product-by-process claims are supported by the courts. *"We are therefore of the opinion that when the prior art discloses a product which reasonably appears to be either identical with or only slightly different than a product claimed in a product-by-process claim, a rejection based alternatively on either section 102 or 103 of the statute is eminently fair and acceptable."* **In re Brown**, 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA 1972).

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dawn Garrett whose telephone number is (571) 272-1523. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached at (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Dawn Garrett
Primary Examiner
Art Unit 1774